





## The State Agricultural College.

## THE WORK OF THE STUDENTS.

The system of keeping an account with the students, and of accounting for all the labor performed by them, in the several departments has been put into operation at the college during the month of May. At its meeting in May, the Board of Education appointed the General Superintendent, also Secretary of the College, and Faculty, in the place of Professor Tracy, who, from ill health, felt compelled to resign the Secretaryship; and it also framed a resolution empowering the Secretary to commence a system of accounts similar to that which was mentioned some weeks since in the MICHIGAN FARMER, as suitable for the institution in its present state. This has been done, but to carry out the system with that completeness, exactitude, economy of time, and of writing, and labor necessary, the Board of Education itself should in some degree conform to its requirements. The design of the system is to be able to show, and keep an exact record, of the following particulars:

1. The labor of the students; 2, the manner in which this labor has been expended; 3, the expenses of the Farm in its several departments; 4, the expenses of the Boarding House; 5, the record of the general expenses and income of the institution.

At present we shall give an account of the method of keeping an account of the students' labor, and of its expenditure during the past month, or from the four weeks commencing with May 1, and ending May 28.

The students are, for the purposes of labor, divided into three nearly equal divisions. Each member of these divisions as their time approaches for field work, reports himself to Mr. Hodges, the Farm Doctor, who is supplied with a book, named a *Check Roll*, on each leaf of which is a blank form, with two columns for each day's work, and each page just contains the columns for one week and the names for each division. One week's work of the three divisions, therefore, occupies three whole pages. The first column contains the names of the students; the next columns are the two for Monday, in one is marked the number of hours' work, and in the other the kind of work which the student is directed to do for that day. The student as soon as his time for field work arrives, reports himself to the Farm Doctor who directs him to such field or such work as he may be required to do, and at once checks opposite his name under the appropriate day of the week his labor and what his work is. If he does not appear, or is absent, a blank is left opposite. This book is returned each Saturday afternoon to the Superintendent's office, where it is prepared for the next week's work, and where also it is used to correct and check the student's own bills.

Each student has distributed to him on every Monday, a blank tabular form, one of which, as filled out, is copied as an example. Heading of this description—

STUDENTS' DAILY AND WEEKLY ACCOUNT OF WORK FOR THE WEEK ENDING MAY 21, 1880.

Day of week	Hours.	No. of field.	Description of work.
Monday	8	5	Cultivating amongst trees in garden.
Tuesday	8	5	Harrowing for corn.
Wednesday	8	5	Spading up marsh.
Thursday	8	5	Planting corn.
Friday	8	5	Harrowing in orchard.
Saturday	8	5	Spading up marsh.

## Work charged to following account:

Real estate	6
Crops	9
Garden	8

— 18 hours.

On the back of this blank is printed the following directions, so that the student in filling it out, may render it as perfect and exact as possible:

NOTE.—The student, in filling out this blank, will refer to each lot or field in which his time has been spent by the number as referred to in the list below. He will specify under "Description of work" the actual kind of work done. He will also sum up the total number of hours, affixing to the several accounts the number of hours employed therein. If employed in chopping, logging, brushing, splitting rails, fencing, ditching, draining, or any work that has for its design the improvement of land, he will affix the sum of the hours so employed to *real estate account*; if employed in plowing, harrowing, sowing, planting, or any work that is intended to secure crops, he will charge his time to *crop account*; if he has care of live stock, to *live stock account*; if in garden, to *garden account*; if on buildings, to *building account*; if on work not enumerated, charge it to *miscellaneous farm account*.

On the back is also printed the number and description of the field.

Each Monday these blanks are collected from the students by one of their number. He sorts them into divisions, arranges them in alphabetical order, files them neatly and hands them to the Superintendent. With the aid of an assistant, these accounts are immediately taken and compared with the check roll, the number of hours under each kind of work summed up, and posted in a book called

the *Work Table*, and when complete the work shows the following results in the subjoined form:

WORK TABLE FOR WEEK ENDING MAY 21, 1880.

	Real Estate	Crops	Boarding Hall	Buildings	Mechanics	Professors	Garden	Live Stock
1st Division	198%	151%	8	6%	31%	18	21	98%
2d Division	148%	114%	8	27	4	27	145	98%
3d Division	80%	170%	18	27	84	27	114%	
Total	426%	435%	34	39	119	72	281	98%

If the whole number of students had worked a full term each day, there would have been 1494 hours to each account, but there are always some absent from sickness, or by permission, so that we frequently have on Saturdays, when all regular work is done in the forenoon, and there is no regular afternoon division, a class who are willing to do any work at which they may be set, and who are desirous of making up for lost time.

Following up this system for the four weeks of the month of May, and we find that during the time, the students have performed as follows—

1st week in May	1487%
2d week	1387%
3d week	1431%
4th week	1439%
Total	5696%

These hours are divided up, and charged in the several accounts thus—

To *Real Estate*, (which means the improvement of the farm by cutting down timber, logging up fallen timber, breaking up for the first time, digging ditches, or drains, spading marshes, when too wet for teams to work upon, grubbing out stumps, rocks, &c., picking up and burning brush heaps, splitting rails, making fences, and all work that tends to ameliorate the land, and is done without reference to getting returns for it from next crop, beyond the interest in the first cost of land and improvements.) 1745%

To *Crops*, (This includes all work connected with the growing and securing of the farm crops) 1460%

To *Boarding House*, (This includes the splitting of wood, the bringing of wood from the field, and all work that the steward may require to be done for the hall outside of the household duties performed by his own particular help. For instance twice this month, we have detached one or two students to clean up the fallen on the floor which sometimes drops from the ceiling and walls in the rooms, in large masses; once each week also the leach for draining loys, has to be emptied and filled up with ashes.) 174%

To *Buildings*, (This includes all work connected with the College or other buildings, exclusive of the Boarding Hall. One of the students has the charge of keeping the college buildings swept and clean, and the interest in the labor—there is another who has charge of the fires in the furnaces of the college buildings.—These are all charged as building expenses.) 188%

To *Miscellaneous*, (There are sundry duties connected with the institution, such as the regular ringing of the bell, the sending for the mail, the writing for the Secretary, the mending and work done by carpenters, and the other incidental work which are placed under this heading.) 188%

To *Professors*, (There is certain work connected with the gardens and buildings of the Professors, which occupy the students to a certain extent. This is charged to the account of their individual accounts, and we give the aggregate here.) 267%

To *Garden*, (This includes the whole division of garden hands, of which there are detailed here the 2d and 3d divisions.) 1126%

Much of the work done in the garden has rarely been on real estate account, as the improvements are permanent. But this will be explained more fully when that subject is treated.)

To *Live Stock*, (This includes the care and feeding of the live stock, and all other matters connected with them. Three of the students have the regular care assigned as a special duty, and one has the horses fed, cleaned and ready for work before breakfast each morning. The other attends to the working oxen, and another to the milk cows. There is also some incidental work that has to be done from time to time, such as taking the horses to the chow, going after feed, such as hay and oats. There are no regular pastures as yet on this farm, and during a portion of the season, we have had neither hay nor grain and no money to buy any. Our only resource was to turn the cattle out on the rich interval land that lies between the wheat and the river, and where they have had to be herded. This has not cost so much as would the grain and hay, it is true, but the cattle have not been in such condition to do heavy work all the time, as we could have wished. Again the want of pastures compels the milk cattle to be turned out into the woods for their living. Occasionally they do not come back with that regularity which is desirable, especially when 120 persons are depending on them for milk. They have to be sought for, and this also consumes time, which has to be allowed those who do the work of searching the woods. We had no pig pen as yet that is worthy of the name even, and occasionally these pertinacious animals get out of their enclosure into the adjoining fields, and have to be put back. This is another portion of incidental work belonging to this account, and which swells the number of hours charged to it.) 344%

Total charge to several accounts..... 5696%

It will be seen now, in what manner the time account is kept with the students. There is as yet a department in the accounts which it has not been deemed worth while to organize this year, and that is a particular account with each field. This has not been done with any of the lots except the garden, for the reason that only one or two are in the form or size which belong to a permanent division.—After the crops are off, nearly every portion of the farm must undergo a complete reformation of the subdivisions into fields. Hence the real estate account will be charged to general account of the whole estate for this season or up to the 1st of next January.

In a future number we will give a detailed account of the work done in some of the lots as now laid out.

A New Variety.

A new variety of clover is now grown in Belgium, called the *Hybrid Red Clover*, which is said to be a distinct variety growing as great a weight of crop as the old Red. It bears a flower white inside, and red outside, exactly as if a white flower had been dipped in red coloring, and so stained the tips. It lasts longer than the common clover, and furnishes crops for several years.

## Mangold Wurzel.

The Mangold Wurzel is a variety of the Beet, especially useful for feeding cattle, and considered superior to the turnip or rutabaga for spring use, as it remains juicy and palatable, after the turnip has become useless, on account of age. In fact the mangold wurzel are not fit to feed animals when first taken out of the ground, as they then contain an acid substance which has a tendency to scour animals which feed on them. Those who have tried this root have found that cows relish it much more after it has been kept for some months, and that they then thrive much better, than when it is given to them freshly dug. James Cathill, an English experimenter with this crop, writes that in keeping over this crop, he has found "that the proportion of sugar in the root increases considerably, whilst the pectin diminishes.—The pectic acid, is readily changed by weak acid into sugar, and as it is also transformed into sugar during the ripening process of apples, pears and other fruit, there can be little doubt that the additional quantity of sugar in old mangold has been formed at the expense of the pectin." An analysis of two varieties of this root has shown that it contains.

	New.	Old.
Water	85.18	84.65
Gum	0.67	0.50
Sugar	9.79	11.96
Albumen	0.39	0.25
Fibre, pectin and pectic acid	3.08	3.81

This will express the mangold wurzel more fully when it is compared with the analysis of the turnip, of which we give that of two varieties, on the authority of Dr. Voeleker of the Agricultural College at Cirencester, England:

	White Globe.	Rutabaga.
Water	90.48	80.46
Sugar, gum, pectin, &c.	4.79	4.64
Albumenous compounds	1.14	1.44
Vegetable fibre	3.11	3.84

When the composition of the Mangold Wurzel and the Rutabaga is compared with a reference to the composition as containing alimentary substances, they are found to be as follows, in 100 parts:

	Mangold.	Rutabaga.
Water	86.04	89.26
Flesh forming ingredients	1.51	1.44
Heat-giving ingredients	11.19	8.45
Mineral matters	0.96	0.63

It will therefore be seen that the mangold weight for weight, is to be considered the superior root; and it must be likewise borne in mind that it grows at the rate of 30 tons to the acre, where turnips would not grow over 20 tons, that it is much better adapted to grow in the dry climate of the United States to that perfection attained by the root crops in Great Britain. There is one drawback, however. The mangold, like all the beet tribe, is very sensitive to frost, and in harvesting it should be taken care of before there is any danger of injury from that cause in the fall, and it must be protected in such a manner as to secure it from being affected during the winter season.

At the farm of the State agricultural college, there has been sown this season a small plot, more for trial than to depend upon it as a root crop, as its utility or its economy as a source of nutriment, either for milk or fattening stock, is not known.

The piece of ground selected is the east border of the small marsh lying to the eastward of the boarding house. A portion of this was selected that was well mixed with the sandy loam of the adjacent upland, and a portion which was the pure vegetable marsh muck, which had only one crop of turnips taken from it since it was brought under cultivation. The muck had been turned up with the spade, but that which was mixed with the loam, and which was on the border between the marsh and the upland was turned up with the plow. The next process was to drag it down with a heavy triangular harrow for the purpose of breaking all the clods and lumps, and making a surface on which the roller could be worked with effect. This latter implement was then applied, and the whole thoroughly rolled. The effect of the roller on this land is surprising, it consolidates it, and makes the surface firm to the tread. The only trouble with it was, that the implement we had was not a well constructed one, and was not well fitted for such work, being only a piece of a log into which wooden pins for axles had been fitted. Neither its circumference nor its weight were sufficient to permit a good, thorough piece of work to be done, but as it was the best to be had, the most was made of it. After passing over this land twice with the roller, a square harrow was applied which dragged up many pieces of sod, and roots.—After this, the iron wheel cultivator manufactured by Moir and Hauser, of Northville, was applied. This implement loosened a portion of the surface about five feet in width, bringing all the sods and foul stuff to the surface, and pulverized the soil to the depth of six inches, leaving the lands in small ridges, or drills, that worked admirably under the har-

row when it was next applied. The harrow selected for this work was a square double harrow with finer teeth than the one first applied. Two of the students followed the harrow to clear the surface of roots, sods, and many of the clumps of mossy stuff, that lay scattered about. When this was done the roller was again applied, and the surface made level.—The drills were then opened for the seed with the hoe to the depth of an inch, the drills being thirty inches apart. The seed which had been procured at the seed store of Messrs. Bloss & Co., of Detroit, was then sown by hand, being dropped about every eight inches. This, however, was done more to be sure of a crop, than with any design to grow the plants so close together, as the plants when well started will require to be thinned out to the distance of fifteen or sixteen inches from each other. The whole quantity of seed sown was a pound, and we found it enough for about a quarter of an acre. The piece sown is somewhat irregular in shape, but it will be measured before the crops come off, and we hope also to report from time to time the growth and progress of this crop.

## Stabling Horses.

If our farmers would reflect for a moment on their erroneous mode of stabling in this country, they would not be surprised at occasionally having a sick horse to treat, but should rather wonder how their stock escaped so well. Some have their stables too close, which obliges the horse to breathe over and over again confined air, urine, &c. The horse is taken from this warm stable, with the pores of his skin open, and suddenly plunged into a chilly rain or snow, to stand in the pasture, or be worked for twelve hours. He is then brought to his stable, where he must again, for twelve hours, breathe an air confined and polluted with the ammonia from the filth and urine of his stall.

But, in this country, the converse usually obtains. After the day's labor is over, and the horse heated and wet with perspiration, we turn him into his stable, where the scarcity of boards, and the immense size of the cracks between the logs, of which his stable is built, permit the cold wind, rain, and snow, to pelt the poor animal through the night, while he lies, attempting to sleep, in cold mud and urine half way up his side. The consequence is, he is completely chilled through, and rises next morning much exhausted by his night's suffering.

When the blood is circulating freely, and all at once the horse is subjected to this sudden, severe degree of cold, the circulation is suddenly driven to internal organs, and, as the lungs are most plentifully supplied with blood vessels, and have already been irritated by breathing those stenches of horse, &c., from the stable, we are not surprised to find coughs, colds, and pneumonia occasionally.

But, if the horse escape disease, do not accuse him of being an unthrifty animal, if he should lose flesh, and his coat should look a little rough; but, on the contrary, if he should be troubled with weak eyes, mange, scratches, or an occasional fit of the colic we should not be surprised. What I wish to inculcate is, the importance of keeping the horse, as well as all other domestic animals, in as uniform a temperature as possible, especially avoiding sudden changes. The stable should be well ventilated—kept free from mud—and the cold rainy winds of Winter should be excluded.

An over-heated horse should never be stabled wet, but rubbed dry; and, if the weather is severe, a blanket should be thrown over him while he is cooling; and a fresh supply of straw occasionally thrown into his stall, will greatly add to his comfort.

If care be taken in this way, and our animals regularly fed and watered, we will keep our stock in order on one-third less feed than we make use of under the present system; and, while our stock would enjoy a comparative immunity from disease, our consciences would surely rest easier.—*Southern Farmer and Planter.*

## Fattening Sheep.

I fattened 507 sheep, and twenty cattle last winter. I regretted that some of those gentlemen who think that sheep must be steeped in a decoction of tobacco, to kill ticks, had not come and examined mine. I did not feed them quite two bushels of oil meal each, and only forty days' hay. I commenced feeding the 23d of November, and fed them until the 23d of March, being one hundred and nineteen days. The first seventy-nine days I fed one pound of oil meal to each per day, with straw for fodder; and forty days, one half pound to each per day, with very good clover hay, and they were very fat when they went away; they were full blooded Spanish merinos. If I could get larger sheep, I think I could do better; still, merino sheep are readily fattened, and they like them very well in the Albany and New York markets when fat.—*JOHN JOHNSON, near Geneva, N. Y., May 20, in Ohio Farmer.*

## The Steam Plough on the Flemish Farm of Prince Albert.

FROM THE LONDON FARMERS' MAGAZINE.

Having been invited by Mr. Fowler to be present at the working of his steam plough on the Flemish farm of his Royal Highness Prince Albert at Windsor, we went thither on the 20th of last month. Upon arrival, we found the plough working under a disadvantage, the land being a stiff clay, very rough, lying on the slope of a rising ground, and having previously been stirred with a grubber, so that altogether it was impossible to make clean and slightly work. The land was also being manured with farm yard dung before the plough, which was thereby greatly impeded by the lumps choking the shares, rendering frequent stoppages necessary to clear it away. In other respects, the machine worked with great ease and regularity, finishing off the "skewings" in a workmanlike manner. This, we conceive, is the most difficult part of the work of a steam plough; but we saw several such corners that were finished as well as could have been done by the common plough. The rest of the field, which was more level, had been already ploughed to the depth of six or eight inches, and exhibited a very clean and regular furrow slice. A small portion of it had been subsoiled, with Cotgreave's plough, to the depth of twelve inches; but the steward, Mr. Bremner, did not consider it desirable to bring so much of the cold subsoil to the surface so late in the spring, the land being intended for mangel wurzel or swedes—we could not learn which. There were three ploughs attached to the machine, and Mr. Grieg, the superintendent in the absence of Mr. Fowler, estimated the quantity of land turned over by them per day of ten hours, at eight acres, which, on such a soil, may be considered equal to the work of ten pairs of horses and the common ploughs. The cost is 8s (\$2.00) per acre.

The grubber was at work at the same time and performed its part exceedingly well. It had five times, and went to the depth of twelve inches, bringing to the surface the couch grass and other weeds. This operation, we think, ought to have been performed long enough (instead of immediately) before the ploughing, to allow of these being collected and burned, instead of being turned in again by the plough. A part of the field was left unfinished, we presume to be so cleaned before being finally ploughed.

We went over two other fields that had recently been ploughed by the same machine, each of which exhibited a clean and regular furrow slice; nor did we perceive in them any breaks, or untorn portions of the land.—The whole ploughing is necessarily "on the flat," without any intervening furrows; and whether it can be considered that these ventilators of the corn field are compensated for by the land saved, remains to be seen.

The recent alterations made by the patentee in the apparatus have greatly facilitated the working. The direct application of the power to the ploughs, by which the length of the working rope, and consequently the danger of breakage, are so much reduced, is a manifest improvement upon the original plan, in which the rope embraced the whole area of the field, or that portion of it taken at one working.

With regard to the economic part of the question of steam ploughing as at present practiced, we consider the direct saving of expense, as between it and the common plough, unimportant; and were there no other source of profit, we should say it would not be sufficiently great to render it desirable to substitute it for horse power, or to disturb for it the present arrangement of the farm.—The great advantage is to be found in the economy of time, and the rapidity with which the work can be performed; and still more in the increased production consequent on deep culture and timely sowing, both of which may be secured by it. The system, however, is yet in its infancy, and does but just demonstrate the practicability of applying the power of steam to the cultivation of the soil. We look for a much greater development of it, thus applied, approaching nearer to that it has attained in other great departments of industry; and its economic properties must be more fully worked out before the general body of agriculturists will be induced to adopt so important a change in their mode of conducting their business. *Steam must reign alone*, if at all, and can not, with advantage, be associated with animal or manual power, except as subordinate agents, of which, when it has attained its maturity of growth, it will require only homeopathic doses. Our mechanists will do well to consider this, and to direct their attention to an extended application of steam-power to all the operations of husbandry, which alone can render it a truly economic agent, and to which we assuredly believe it is destined ultimately to attain.

\* This is a provincial (Norfolk) term derived from the word skew, oblique, and indicates those angular or irregular portions of a field remaining after the square has been ploughed.



## The Garden & Orchard.

Transactions of the American Pomological Society.

REPORT OF THE STANDING FRUIT COMMITTEE FOR MICHIGAN.

NUMBER SEVEN.

The following are reported as the "Best Varieties of Pears, on pear stock, for an orchard of one hundred trees."

Madeline	3 Belle Lucrative	5
Bloodgood	3 Oswego Beurre	5
Dearborn's Seedling	3 Sheldon	5
Tyson	3 Buffum	5
Rostiezer	3 Seckel	10
Bartlett	10 Lawrence	5
Flemish Beauty	10 Winter Nells	5
Beurre d'Anjou	5 Beurre d'Arenburg	5
White Doyenne	15	

The pear has been planted in this State, only to a limited extent, and very little of the experience of cultivators of this fruit has been given to the public. The writer, therefore, is obliged to rely largely upon his individual experience, and the general reputation of the fruits in question.

In an orchard of the extent contemplated in the above list, the trees, when once fully in bearing, would produce a large surplus for the market. With apples, it was thought desirable that such surplus should consist of winter varieties. With pears, however, especially at the west, there has never been a supply in the market, of winter sorts, and there is consequently no demand for them. The surplus of this fruit should, therefore, consist of summer and autumn varieties. Indeed, it becomes the orchardist to consider the subject well before planting this fruit, for the market, as, although one of the most profitable of investments, when conducted under suitable circumstances, the chances of failure are far greater than with the apple.

The following are some of the causes of failure in the planting of this fruit:

It is decidedly fastidious in its choice of soils, and, oftentimes, the best chosen localities fail to suit all varieties.

It is impatient of the neglect to which so large a proportion of our orchards are subjected, whether it be of cultivation or of pruning.

It is subject to more diseases than the apple, among which we would mention fire-blight, in its various forms, the premature dropping of the leaves, and canker.

The earlier varieties are exceedingly short-lived, and all require much care and experience, for the proper management of the ripening process.

Much skill will be needed with the earliest varieties, especially if the market be not readily accessible, to enable the grower to get them off his hands in good order, and before they shall decay at the core.

Finally, many varieties are such tardy bearers as to severely tax the patience of planters, and to furnish but too much ground for the adage, "He that plants pears, plants for his heirs."

On the other hand, when these difficulties are properly met and provided for, such a plantation will doubtless yield an abundant return for the additional expense and risk incurred.

The first six varieties on the list, (Madeline, Bloodgood, Dearborn's Seedling, Tyson, Rostiezer and Bartlett,) are excellent and well known varieties, constituting a perfect succession, in this climate, from sometime in July, to the last of September. They are, however, not without their faults. For orchard culture, (as is here contemplated,) we need a better grower than Bloodgood, and, for market, a more beautiful fruit. Dearborn's Seedling is decidedly too small, and Tyson is too tardy a bearer for these days of magnetic telegraphs and Young America. Its place is on the quince. It is, however, very prolific when once in bearing. Bartlett enjoys the enviable notoriety of occupying a place on every list reported to the Society; and its number might even be increased with great propriety.

Flemish Beauty is a fine, vigorous, hardy tree, a tolerably early bearer, and the fruit large, beautiful and good; but it is so short-lived that it will seldom much outlast the Bartlett. It will, especially if allowed to ripen on the tree, often become utterly worthless, before the eye can detect any sign of decay. As it is not needed to complete a succession, it would be well, (at least in this region,) to drop it, and plant, instead, the same number of Swan's Orange; a variety equally vigorous, hardy and prolific; coming into bearing very young; always of fine quality, and large size, and keeping through October.

Beurre d'Anjou is supposed to be very little known in this State. So far as it has been tried at the east, it meets with unqualified praise, and will, probably, sustain the position assigned it in the list.

White Doyenne and Belle Lucrative, (Fondante d'Automne,) are well known standard

sorts, and will bear planting to almost any extent.

Oswego Beurre is a fine late variety, not supposed to be extensively tested in this State. The fruit, in the writer's grounds, has been known to crack—would prefer Swan's Orange for profit.

Sheldon is one of our newer, native pears, originating in Western New York. It is recommended by the Pomological Society for general cultivation, but although it may ultimately prove to be all that we expect, it is yet too soon to consider its character as established in our State.

Buffum is one of those varieties which, without claiming to be of the highest quality, have so many desirable characteristics, as to be eminently deserving of a place on the list.

Seckel is a fine, hardy, beautiful growing tree, and the fruit has long been considered the standard of excellence. There are, however, two serious drawbacks upon its character. It is a very tardy bearer, and the fruit when produced, is so small as to be only endurable on account of its superior quality. In fact, it is strictly an amateur fruit. The number should be diminished at least one half, in favor of some more profitable variety.

Lawrence is an excellent and profitable variety. According to Field's Pear Culture, it may be ripened any time from November to March, which, if true, adds to its value as a member of the list; as it is the only variety that will keep much beyond January.

Winter Nells may well be called, (as it sometimes is,) Writter Seckel; as, to a person acquainted with the Seckel, this name give a very just idea of its character. It is exceedingly prolific, and would, doubtless, become a favorite market fruit, were it not for its awkward habit of growth.

Beurre d'Arenburg is one of the richest and highest flavored of our winter pears, and appears to succeed well in this State. At the recent meeting of the Pomological Society a proposition was made to strike it from the list for general cultivation, but it was negatived. It is said to be a poor grower, and to canker badly at the east. In the writer's grounds, however, it is liable to neither of these objections.

In this immediate vicinity, the Sterling Pear would be preferred to any other variety of its season to plant for profit, as it is a strong, hardy tree, and the fruit very beautiful, and of fine size. It would come in between the Bloodgood and the Bartlett.

It should doubtless be a leading object, in planting a family orchard, to distribute the varieties over as much of the season as possible. For this purpose it might be desirable to add to the list a few trees of Beurre Gris d'Hiver Nouvian, and Doyenne d'Alencon, thus prolonging the pear season till April.

T. T. LYON.

Plymouth, May 30th, 1889.

### The Movable Comb Bee Hive.

When I wrote you before a few words about the Langstroth movable comb hive, I had not had much experience with it; and, though I felt well assured it was the most common sense bee-hive I had ever seen, or heard of, and had no reason to doubt that it would realize to the bee-keeper all that was claimed for it, yet I could not speak with the confidence in reference to its general advantages over all other hives that I now can. Since the 10th of April I have transferred from the old box hive to this, a dozen swarms—many of them very large swarms, and said to be "very cross;" but I have been stung only when I accidentally injured a bee, which happened but three times through the whole. Nor did I kill more than a dozen bees at any one transfer, and sometimes not that number.

I will, if you please, give you a little history of my operations thus far, hoping it may induce others, interested in this branch of rural employment, to give this hive a trial for themselves. And I trust I shall be able to make some suggestions which may be useful to the inexperienced.

The first thing of importance in starting an Apiary, is the choice of your stocks. If undertaken in the spring, wait till the bees work lively and select those which are carrying in bee-bread, or pollen, and water freely. This is a sure indication that the swarm has a fertile queen, and that all is right within. If bees are crawling listlessly about the hive in spring, and do not work on warm days, it is positively certain that something is wrong and the swarm will not be prosperous. The weight of a hive is a very uncertain guide as to the value of the swarm. It may contain an excess of old, thick, mouldy comb, or an excess of poor honey and bee-bread and very few bees.

When the swarm is to be removed to any considerable distance, a few whiffs of smoke from burning cotton rags must be blown into the entrance to drive the bees up into the

comb; then the hive may be carefully inverted and a cloth spread over and fastened so that a bee cannot get out. In this way they have an abundance of air and may be carried any distance with safety, if the hive is kept bottom up. Bees should always be moved on a spring wagon if possible.

I have a swarm which must have lost its queen during the past winter. It was purchased quite early and without the precaution of an examination when the bees were at work. The bees in this hive are constantly diminishing in numbers, but I hope now to give them, in a day or two a young queen, nearly mature; that is, nearly ready to burst her cell and come out. I might long ago have united them to another stock, as this hive affords all the facilities for uniting swarms, but I wished to try the experiment of giving them a sealed queen cell. One who has never seen one of the movable-frame hives, can scarcely form an idea how easily and readily every desirable operation may be performed. In this case, I want to give the queenless stock the means of raising a new queen for themselves. With any other hive this would be impossible and the swarm must perish. But with this the simple process is to lift out a frame containing the royal cell, shake off the bees, and place it in the hive which is queenless, and the work is done—the hives being all of one size.

On the 20th of last month I divided a large swarm, putting the queen and a portion of the comb and honey—removing the old hive to a new place and placing the new hive on the old stand. The swarm from which the queen was taken were in a state of great excitement and restlessness on finding their governor gone, and during the first day they were continually running about the outside of the hive as though in anxious search for something. After that all was quiet, and for three days scarce a bee could be seen outside the hive. On the fourth day on examining the hive it was found that they had eight royal cells already completed. On this last day of the month it is found that they have destroyed all but two. As they invariably start a large number of these royal cells, it would seem that the dread of being left queenless is so great, they are determined there shall be no failure and so make ample provision; and when the process is so far advanced as to leave no doubt that a perfect queen will be produced from a certain cell, the others are demolished and the whole attention is given to this. It is a good plan in the use of the movable-frame hive to divide one swarm in every five or six, a week before the time of general dividing takes place so that a sealed queen-cell may be had for each swarm from which the queen is taken, though this was not done in the above case for reasons which it is not necessary to give. My design now is to divide immediately all strong and healthy stocks and thus end the swarming for the season. If there is danger of natural swarming hereafter—later in the season it will be a very easy chore to prevent it with this hive. This may be questioned by old-bee-keepers who have never witnessed the management of bees in any but the box-hive, or in the ordinary patents so generally circulated. To prevent swarming then, with the Langstroth hive, lift out the frames, one after the other and cut out the queen cells. As the bees never swarm until a young queen is about coming from her cell, this will quickly change the whole order of things, and the bees will remain contented. It often happens however, that in a long honey gathering season, the process must be repeated, as it is well known that some swarms will throw off three or four new colonies in a season; and with the common hives this cannot be prevented; though a late swarm may be made to return to the parent hive, by catching the queen and destroying her.

Yours truly CHAS. BETTS.  
Burr Oak.

### HORTICULTURAL NOTES.

#### Hints for the Fruit Garden.

Strawberry time has doubtless had the effect of stimulating the resolves of the owners, to have "some more of them" another year. Where this is decided on, take care to give the runners every chance to perfect themselves, by providing good rich soil for them to run into, and by thinning out the weaker ones, that they may not rob and impoverish the rest.

When the Raspberry has done bearing, the old fruit-bearing canes should at once be cut out, and also many of the weaker suckers, leaving only about six to each square foot to perfect themselves for bearing another season. The fall-bearing kinds are much aided by having the bearing shoots of the present season cut back severely about this time, say to within two feet. There are some who slyly hint that many of this class owe their sole reputation to this practice; but this is by no means certain.

The mildew on the Gooseberry will appear about this time. It is now a pretty well ascertained fact that any thing that injures the tissues of

the leaf, will be followed by an attack of mildew on the part so injured. The Gooseberry luxuriates naturally in mountain districts, and in a moist atmosphere, and as soon as our dry seasons commence, the leaves are injured and mildew appears. Any thing, therefore, that will favor moisture about the bush, will prevent mildew. Partial shade, salt hay, deep soil, and similar experiments may be tried.

Pears and Apples, especially those on dwarf stocks, ought not to be allowed to bear too freely; the irreparable injury, and often death, of the tree is frequently attributable to this mistake. So long as a tree appears to grow freely, no injury from over-cropping is likely; but as soon as they seem to have no inclination to make wood, something is wrong, and it should not be permitted to bear much fruit. Attention will now be required to the nice operation of summer pruning.—*Gardener's Monthly.*

#### Japan Maple.

(*Acer japonicum atropurpureum*).—Nothing is more beautiful in Japan gardens, writes M. Siebold, than this shrub, whose wood and foliage are dark purple, forming clusters of leaves in lieu of flowers, seeming like monstrous bouquets of very dark flowers, reflected with fire. It grows ten to fifteen feet high in its native country. It is quite hardy in the Belgian gardens, and as the Ginkgo and other Japan trees are hardy with us it is to be hoped that this may prove equally so, and thus become a great acquisition.—*Hovey's Magazine.*

#### To Keep June Roses in Bloom.

The *Gardener's Monthly* says, "as soon as the first flowers are fairly faded they should be cut off several buds below the flower; from the shoots which will then be encouraged to push from the remaining buds, a very free bloom will be received in the course of a few weeks."

To kill the green fly, and other thin skinned insects that trouble the rose, the *Monthly* recommends plunging the branches into water heated to 125° and says that he has repeated the experiment without injuring the plants.

#### Lime and Sulphur.

Some grape-growers have recommended as a preventive of mildew, that lime should be sprinkled with water, and sulphur thrown upon it, and the fumes be permitted to penetrate among the foliage. In using this remedy, however, the greatest caution is necessary, or the experimenter may wake up to find his vines covered with dead leaves.

#### Protection from Worms.

A strip of paper about three inches wide, wrapped loosely around the stems of tomato or cabbage plants, when transplanting them, will defend them from the attacks of the cut worm. About one inch of the paper should be beneath the ground.

#### The Curculio.

As the Curculio season is at hand, we give below the various methods resorted to by different fruit growers for saving their plums:

A correspondent of the *Country Gentleman*, to preserve his plums, used the whale-oil soap, putting it on with a syringe, and covering thoroughly the whole of the tree. This was done as often as three or four times a week, and oftener in case of rain. About one pound of the soap was used to eight gallons of water.

The *German Town Telegraph* says: "A plan tried last season in this vicinity, which proved quite effectual, is to dip bunches of plums in gas-tar, and hang them upon the trees, to be renewed, though seldom required more than once, when the odor has disappeared."

Another effectual wash is made by dissolving half a peck of slaked lime and two pounds of flowers of sulphur in a bucket of water—to stand forty-eight hours before syringing the tree.

#### Summer Pruning.

In his "Theory of Horticulture," Dr. Lindley thus explains the principles and practice of summer pruning, with the design to make well formed pyramid heads:

"There is no difficulty in obtaining the requisite number of branches, at proper distances, by observing the following directions: Plant a maiden tree in autumn; allow it to establish itself for one year, and then head it back to a good eye, a few buds from its base. Let one shoot grow as strong and upright as possible during the summer, and head it back to within thirteen inches of the ground in autumn, cutting very close to a bud, in order that the shoot springing from it may form little or no bending; train it upright, whilst three or four shoots, from buds immediately below it, should be more or less inclined to horizontal direction, according to their strength; the strongest should be most depressed. These three or four constitute the commencement of the first or lower tier. For the next tier, head back the upright leader to within eight or ten inches of its base, if the soil is rich; if not, to fifteen inches; and from the shoots produced in the following season from buds, just under the cut, train a shoot for a leader, and three or four somewhat horizontally, as before, for a second. Precisely in this manner tier after tier is started, till the tree attains its assigned height. All this can be effected in accordance with the natural disposition of the tree to form an upright stem, and with the tendency of the sap to develop the uppermost buds of a shortened shoot. But it is not to be done without serious difficulties.

The shoots started for horizontal branches will rarely take that direction; on the contrary, they will generally diverge at an angle of 45°. This may, and should be overcome by tying down. The disparity of vigor in the upper, as compared with the lower branches, is a more serious affair. If allowed, the former will soon overgrow the latter, and the pyramid will ultimately become inverted. It is, therefore, evident that, in order to have

well-conditioned pyramid pear-trees, means must be adopted to maintain vigor in the lower tiers of branches, and repress over-luxuriance in the upper.

With the view of invigorating the lower, permit the shoots to grow without restraint till September, and then bend them towards a horizontal position. They will thus be much stronger than if they had been made to follow a horizontal direction from the beginning. Shorten them a little at the winter pruning, in order to obtain a stronger winter shoot than would otherwise be produced. Cut to a side bud; one on the upper side would produce a stronger shoot, but the latter could not be brought down without occasioning an unsightly bend. Besides a leader, some other shoots will probably be produced; let them grow, for their foliage will assist in forming channels or layers of wood containing channels, for the transmission of sap along these branches in the following season. The growing shoot should have its point elevated till September, as before. No reduction of foliage connected with the lower branches should be made by summer pruning. Their leading shoots must not be overshaded.

In order to prevent excessive luxuriance in the upper branches, recourse must be had to summer pruning as the most efficient means. The shoots should be trained horizontally from their origin, their points depressed instead of elevated. In short, they must be subjected to a treatment generally reverse of that recommended for the lower branches."

#### A Beech Hedge.

Alexander Forsyth of Manchester, England, suggests that the young beech tree be used as a hedge plant, and we think it well worthy of a trial, where a quick growing, strong, hardy shelter is wanted for gardens. He observes in an article on the subject which we find in the *Farmer's Magazine*:

"Deciduous trees like the thorn are always objectionable as hedge plants since their sheltering properties are always least just at the time when their services are most needed; and if we could get our holly trees to grow quickly, they would set the matter quite at rest as to what plants we should make our hedges of.

The yew, were it not poisonous to cattle, would be an equally great boon to the farmer as hedge plant; but with all of its beauty it is but of slow growth, and for one hundred years or more is but a small tree. The thorn, the holly, and the yew are all costly if planted when they are over three feet in height; consequently they are planted very young; and two rows of posts and rails, chartered for the occasion, have to take charge of their childhood, and a good supply of manure to their roots adds no small item of expense to their culture. It is far otherwise with the "beechen tree." It can be planted full-size at once for a hedge; for you can purchase at most nurseries beech plants five or six feet high, and that at a very moderate price considering the importance of the plant when got of the proper hedge size. I have seen a tall beech hedge planted in two rows, one line sloping to the east at an angle of 45 degrees, and the other to the west, both tied here and there to keep them close. This hedge was full grown the day it was planted; and twenty years afterwards, when I saw it last, it was a fine beech hedge, forming a beautiful object, a substantial fence, and an excellent shelter both in summer and winter, for the old adage is, that the beech is the wisest tree, for keeping its old coat till it sees how the new one suits it. In this respect it is quite an exception to deciduous trees, which, when in good health, drop their leaves one and all when ripe, and the footstalk shows a clean scar, as if the separation of this organ from the tree had little to do with the winter's cold, but obeyed a law that gave it leave to go in peace when it had perfected its labors.

The beech tree, therefore, recommends itself to us on the score of economy as well as on that of speed; for it is cheap in the first instance, and requires no paling to make a fence; thereby lessening the outlay, and acting immediately as a hedge, it allows cultivation to proceed under its protection. But the great advantage of beech hedges is that they can give shelter to any desirable height, and still can be kept at the height of a man if preferred. Their yellowish-brown color in winter is decidedly pleasing; and I have seen some beautiful shapes clipped in single plants, standing above the hedge, as stars, globes, pyramids, and the like. And where beech hedges are used as shelter to a nice farmhouse, or villa residence, a little taste on the part of the owner or occupier in this way is certainly praiseworthy; where a thing is useful and essentially necessary it may with good reason be respected, and even made ornamental.

Mr. Rivers, of Sawbridgeworth, had a beech hedge as a back to one of his orchard-houses; and in this way he imitated the climate of the south of France, and produced the fruits of such a climate successfully without fire heat, simply by a glass roof and boarded ends and front. To invalids such a house would be a very great luxury.



## FOREIGN AGRICULTURE.

## A First Class French Country Garden.

TRANSLATED FROM THE REVUE HORTICOLE.

Our readers know what a great impulse an important branch of horticulture—the scientific management of desert fruits—has received of late years through M. Du Breuil; this active and able professor, besides the courses which he gives in Paris at the Conservatoire des Arts et Metiers, is extending his teaching over all parts of France to numerous hearers who could not otherwise have the opportunity to listening to him. The success which attends the lessons of this eminent arboriculturist, and the constantly increasing number of his pupils, has induced him this year to make a new attempt.

Mr. Du Breuil has long since found that lessons given in the theatre, however clear they may be, require to be accompanied by an examination of results on the ground. In fact, however great the attention of the hearers, the ability of the Professor to describe, and his skill to illustrate by sketching, there is in natural science a means of teaching more rapid and more certain by the inspection of the objects themselves, especially if these are living things, taken in their ordinary state of existence, and in the different phases of their growth. Excellent for those who know nothing of the subject, a lesson in the open air is beneficial to those who already understand it. One may have made great improvements at home, looked closely at that which has been done by his neighbors, and believe himself far advanced; but let him go beyond two or three departments, he will see new and ingenious methods, and will find that he has much to acquire. Every lover of botany will recall with pleasure and regret the rural excursions directed by the last of the Jussieus; the science became a hundred times more attractive when it was mingled with the pleasures of a walk, and the botanist in his study, working microscope in hand, found there an agreeable recreation from his toil?

Struck with the utility of placing before the eyes of his pupils the results of the improved method which he teaches and to make up for the want of a model fruit garden, at Paris, M. Du Breuil got up an excursion, on the 22d of March last, to the Chateau de Vervaine, situated near Alencon, and belonging to the family of Rattier. His invitation received a warm response, and each one hastened to provide himself with a ticket at single fare, a reduction which the Western Railway Company of France had generously conceded on this occasion. Unfortunately the weather at Paris on the evening before starting cooled the enthusiasm, and the number of amateurs was considerably diminished. Those who feared to accompany M. Du Breuil on this visit will doubtless regret it, for their anticipations were happily not realized, and the lecture, in which the party took a lively interest was given in favorable weather. We were present, and are glad to be able to give an account of it to our readers.

The Chateau de Vervaine, about 2½ miles from Alencon, on the road to Brittany, besides possessing the finest orchard in France, has a park of at least 120 acres. We will not stop, however, to give a detailed description of this park, kept up in good style, and affording, with its pieces of water, cascades, and varied surface, a great variety of views.—We will merely remark on the number and beauty of the evergreen trees, such as Araucarias and many of Conifers; together with Taxodium distichum and American Oaks, which occurred at frequent intervals.

The fruit garden which was the object of our visit consists of four enclosures, adjoining each other, and surrounded by walls; the area of the whole is nearly 3½ acres. It contained four years ago a number of wall trees, the greater part of which were in bad condition, trees in the open ground, trained in the conical form, and planted in the borders round each of the vegetable quarters. By this bad management, which is still too much adopted, the trees injured the crops, which they almost entirely overshadowed, and were also prejudicial to the wall trees, to which they were too closely planted. Moreover, owing to the moisture of the climate, they soon became covered with moss, which, besides giving them a melancholy aspect, affected their production and longevity to a considerable extent.

M. Du Breuil was then employed to remedy this state of things, but to avoid at the same time any diminution, however temporary, in the produce of fruit. This condition, sufficiently embarrassing, was strictly fulfilled by the application of the new system of the learned arboriculturist, the principal advantage of which consists in inducing a full state of bearing eight years sooner than by the old mode of culture.

To obtain this result, M. Du Breuil com-

menced by planting afresh, *en cordon oblique* (in oblique lines,) the greater part of the walls where the produce of the trees had become almost insignificant.

The next thing was to replace the trees in the open ground distributed round the kitchen garden quarters. It is here that the method of M. Du Breuil presents the greatest innovation. He distributed over a third of one of the enclosures double espaliers, with perpendicular arms (*en cordon vertical*), disposed in the middle of four parallel beds, running north and south. These beds were 6½ feet wide and 138 feet long, and separated by foot-paths 3 feet 3 inches wide. The trellises were formed of upright laths, about 1 foot apart, with a strong post 5½ inches diameter, and 9 feet 9 inches high, at every 19½ feet. The entire system was kept in its place by strong iron wires having their extremities fixed in the walls, and which crossed each other at the top of the posts. Each line bears two rows of trees trained against it *en cordon vertical*.

When the espalier trees which have been planted two years bear fruit, all the conical trees will be cut down, and the ground which they occupy cropped with vegetables to make up for the space taken up by the new arrangement. We will now follow M. Du Breuil in the examination of the different kinds of trees, some of which have been reserved for a practical demonstration of his new mode of short pruning.

**Pears.**—Wall trees, in oblique lines, against a south aspect, are composed of varieties of winter fruit; the trees are planted at 16 inches apart along a wall 410 feet long. Two-thirds of this length have been planted three years. They cover two-thirds the height of the wall, and have already borne fruit.

Double perpendicular espaliers: the trees are planted about a foot apart along 344 feet, or we may say 688 feet of single espalier. These trees, which occupy two lines and a half of the new plantation above mentioned, have been planted two years; they consist of summer and autumn varieties. Old trees, trained horizontally against a north wall, are the only ones of the old plantation which will be preserved.

**Peaches** are planted 16 inches apart against an east aspect wall, 180 feet long, and trained in oblique lines. The trees have been planted three years, and have almost reached the top of the wall. The short pinching has succeeded perfectly. The stems were almost hid by the number of flowers borne on the spurs. Along 75 feet of the same aspect the trees were trained in the same manner, but planted 2½ feet apart, and the shoots pinched at greater length. The trees, three years old, and very fine, have reached the top of the wall.

**Cherries.**—Against 144 feet of south wall, the trees were planted 16 inches apart. They are three years old and had nearly reached the top of the wall; they were covered with flower buds. Others were planted about a foot apart, along 138 feet of double espalier.

**Plums.**—Against a south wall, 98 feet long, with a south aspect, the trees were planted 16 inches apart, and trained in oblique lines; and against 69 feet of double espalier the trees were about a foot apart and trained upright.

**Apricots.**—Planted 16 inches apart as a single espalier, and trained in oblique lines.—The espalier, 138 feet long, is sheltered on the west side by straw mats from top to bottom, and by a straw coping projecting 23 inches. This shelter is necessary from the middle of February until the end of May; they are then removed, and by this means Apricots ripened in the open air are obtained of much better quality than from a wall.

**Vines.**—A wall 108 feet long is planted with Vines about 14 inches apart. They are trained with single perpendicular and opposite laterals. Another wall, 98 feet long, is planted with Vines 27 inches apart, trained with a single perpendicular and alternate laterals.—These walls have an east aspect, and are covered with glass, the humidity of the climate being unfavorable for the ripening of Grapes.

**Apples.**—These are trained horizontally along the sides of the wall and espalier borders; their total extent is 2348 feet. The trees are planted 6½ feet apart, and about a foot from the edge of the walks.

**Curra-ts.**—These are trained vertically against a dwarf wall facing the west, length 98 feet. Also against an espalier 4 feet high and 138 feet in length. They are planted 8 inches apart.

**Gooseberries.**—Eighteen plants of these are trained in the form of goblets on wire framework.

**Raspberries.**—Cultivated in line against a dwarf wall 164 feet long, facing the west.

The total extent of walls and espaliers is thus described:

	Feet.
Pears on walls.....	576
" on espaliers.....	688
Peaches on walls.....	252
Cherries on walls.....	144
" on espaliers.....	276
Plums on walls.....	138
" on espaliers.....	138
Apricots on espaliers.....	138
Vines on glazed wall.....	206
" in pits.....	801
Currents on walls.....	188
" on espaliers.....	138
Raspberries in line.....	164
Apples trained horizontally.....	2348
	5967

The crop of stone-fruits is secured by straw coping projecting nearly 2 feet, and by thin canvas attached to the edge of the coping, and slanting to 4 feet 10 inches from the bottom of the wall. The espaliers, owing to the manner in which the wires that steady the posts are placed, may easily be protected by thin canvas, which is left on for a longer or shorter time according to the state of the weather.

We have already stated that by the new method adopted by M. Du Breuil there is a considerable decrease in the time required for the formation of the trees. Indeed, the wall trees at Vervaine, although only three or four years old, are already in bearing. In another three years they will have reached the top of the wall, and will be in full bearing. The perpendicular espaliers, planted last year, will be completely formed in five years; while by the old mode it required on the average 16 years for the complete formation of wall trees and 14 years for standards or pyramids.

This early bearing has no prejudicial effect on the quantity of fruit produced. On calculation it will be found that on equal surfaces of wall the length of fruit-bearing wood trained in oblique lines will be just as much as if trained horizontally; and the perpendicular espaliers will yield on the same extent of ground a crop greater by one-half than trees in the conical form.

Such are the results of the transformation directed by M. Du Breuil, and carried out with rare skill by the active and intelligent gardener at the Chateau de Vervaine, M. Chouquet.

The transformation is now complete, and the result is the finest fruit garden established in modern times. Its extraordinary extent, the attention paid to keeping the ground and the trees, the good arrangement of the shelters, the elegance and strength of the espaliers, and above all the application of the improved practice of modern arboriculture render it a complete model garden which one cannot behold without the greatest admiration.

## FARM MISCELLANEA.

## The Utica Horse Show.

The enterprising stock breeders in and around Utica, Macomb county, have organized themselves into a company under the title of "The Utica Association for the Improvement of Stock," and are to hold their first exhibition on Wednesday the 29th inst. They have a beautiful piece of ground near the village, fitted up for their use, and which they have leased for a term of years.

The Association is for the improvement of all kinds of stock, but on account of the shortness of time for preparation this spring, this first exhibition will be for horses only. J. B. St John is president, and Seymour Brownell, secretary, and we notice among the Executive Committee the names of some of the most substantial men and best stock breeders of Macomb county. The list of premiums offered amounts to \$250.

There will also be a trial of Reapers and Mowers on the ground. Manny's, Kirby's, Allen's and Aultman & Miller's are already entered.

Letters of inquiry in regard to the exhibition, addressed to the Secretary, S. Brownell, Utica, Mich., will meet with prompt attention.

## Tiles and Machines.

We are pleased to note that Daines' Tile Machine is being appreciated in Ohio, as a number of his machines have been sent to that State this spring. The maker is also having an unprecedented demand for his tiles this season. The Oakland farmers begin to find out that their lowlands, and stiff soils went work without facilities are afforded for the water to be drained from them at the right seasons to promote the growth of crops.

## Mixed Food.

A bushel of carrots and a bushel of oats are as good for a horse, at moderate work, as two bushels of oats—not because the carrots contain us much nutriment as the oats, for they do not; but they aid the digestive organs in a more perfect appropriation of the nutritive principles in both. When horses are continually fed on oats, much of the food passes undigested, and is a dead loss except to the manure heap. So with sheep and cattle. Give them a few roots daily, and they will have a better appetite, digest their food better, and eat greedily coarse hay, that they would otherwise trample under foot.

## A Good Colt for Sale.

We are glad to inform our readers interested in raising horses, of an opportunity that does not often occur, of obtaining one of the best bred colts in the country at a low figure. A friend who visited the residence of James Birney, Esq., at Bay City, in Bay county, tells us that he saw there a horse colt that bids fair to be one of the best of horses in the State. He will be three years old in July, and was bred at Ashland, the farm of Hon. H. Clay, of Kentucky. He was sired by the celebrated Membrino Chief owned by Hon. James B. Clay, and said to be the fleetest trotter in Kentucky. His dam was of Messenger stock and one of the best mares owned by Col. Thompson. When Hon. J. B. Clay was elected to Congress, Membrino Chief was offered for sale at auction and brought the sum of \$5020. The colt is of dark brown color, and has a carriage and appearance that bids fair to equal his sire.

We advise stock raisers to make further inquiries.

## The Ohio State Fair for 1859.

The Fair of the State of Ohio is to be held this year at Zanesville, in the south-eastern section of that State. Last year the fair was held in the north-western part of the State. Zanesville has direct communication with Cincinnati by means of the Zanesville, Wilmington, and Cincinnati Railroad, and is distant from that city 179 miles. The fair is to be held on the week commencing Monday the 19th of September. J. H. Klippart is the Corresponding Secretary, and his address is the State Agricultural Rooms, Columbus, Ohio.

## An Arab Bought.

S. Lester Taylor, of Cincinnati, has purchased a bay Arab Stallion, lately the property of Sir William Eyre, and which he rode at the battle of Alma, when in the Crimea.—This horse is described as 14½ hands high, and as weighing about 900 pounds. He was a picked horse.

## The Devon Herd Book.

The 2d volume of the American Devon Herd Book, is almost ready to be issued from the press. Sanford Howard is the editor.

## The Silk Fowl.

The little fowl, sometimes called the Negro, from the blackish hue which pervades the skin, but more usually the silk fowl, from the silky texture of its plumage, is a native of China and Japan, and, we believe, of some other eastern countries. In size it is larger than Bantams, the cock weighing from two to two and a half lbs., and the hen from one and a half to two lbs. In form it is very compact, plump, and short-legged. The silky plumage is divided in the web; it is pure white, and should stand out all over the fowl like swan's down. Another peculiarity is the black hue of the skin, chiefly conspicuous about the head, where it is said to show a phosphorescent light in the dark. It has a small rose-comb, a blue earlobe, and blue legs; the delicate integument which covers the bones is dark, like the outer skin, and there is little development of tail. Different families vary much in some points; we do not know whether this arises from less careful breeding, or whether there are different sub-varieties of the same fowl. In many the beautiful fluffy plumage wears a poor, fur-like appearance, and the skin about the head is sometimes without its peculiar blue black hue. Colored specimens have been seen; some are with and some without a lark crest, some have single combs, and some lay colored eggs.

Silk-fowls are nice tractable little fowls to keep, good layers of white eggs (which are large in proportion to the size of the hen), and super-excellent for sitting and rearing chickens. If the correspondent who requested this little account wants careful foster-mothers to rear pheasants, or any similar birds requiring careful, good-tempered mothers, he cannot improve on them, while, if handsome and bred with care, they have the extra merit of generally winning prizes themselves in the various classes. They are often five toed, but it is not imperative.—*London Field.*

## Cattle.

THE DEVONS AS A BREED.

The races of British cattle, known as the middle-horn breeds, are the ancient, aboriginal cattle, indigenous and peculiar to that country. No history or tradition, known to us, is old enough to tell us when they were first domesticated there. The probable origin of these races is from the *Bos longifrons* (long sculled ox) whose bones are found in the fresh water formations of Britain, and some other countries. In the description given of them by Prof. Nilsson, in his work on "Ex-

inct and Existing Bovine Animals," he classes them as the smallest of the ox tribe, that had lived wild in that portion of the globe: the whole length from the muzzle to the end of the rump bone, he supposes to have been about six feet eight inches; and from the slenderer make of its bones, it rather resembled the deer than our present ox; the forehead upwards over the eyes is flattened; between the eyes is a more or less considerable depression; the horn cores are small, cylindrical, and curved forward, but sometimes, though very seldom, downwards in the plane of the forehead.

Whether this species of animal is, as supposed, the progenitor of the middle horn races of cattle in Britain, or not, they (the middle horns) have existed there from the remotest ages. When Cæsar, at the head of his Roman legions, invaded and conquered the island, he found, as he tells us in his Commentaries, that "the country was well peopled," and that "they possessed numerous herds of cattle;" and says that, "the natives of the interior seldom troubled themselves with the tillage of the ground, but lived on fresh meat and clothed themselves with skins." So it seems that the roast beef of old England, and the breeding of cattle there, are no modern inventions. It has been suggested that the Romans introduced their cattle into Britain, but, from an examination of numerous authorities, there is good reason to believe that the natives had better cattle than the south of Europe could boast, before Julius Cæsar was born.

Those ancient cattle are the progenitors of the present middle horn breeds of Britain.—That peculiar breed or variety of them found in the county of Devon, particularly in the northern part, is believed to be the truest and purest type of that ancient race now existing. Here from the time of the earliest records, the pure North Devons have remained the same, and unchanged. The wild deer of the forest have no stronger marks of original descent than the pure, well-bred North Devon animal; and in uniformity of appearance and identity of blood are scarcely more homogeneous. It is but seventy or eighty years since any attention has been given to the matter of improving them; and, happily, all the improvement attempted has been by careful selections of animals from among themselves. There is no conglomerated combination of different and discordant races, natures, temperaments, constitutions, and conformations in their composition, making up a sort of patch-work animal, which must be strictly and very skillfully guarded, lest in propagating its kind, the offspring fly off to the line of the meanest blood of which the race is compounded. There is nothing of this with the Devon; the same blood is in his veins to-day that flowed there ages ago. Improved as they have been and yet may be, notwithstanding some of their ardent admirers pronounce them already at the goal of perfection, they are still the same homogeneous race.

This race, of which we have now to speak, while yielding beef of the best possible quality, furnish us one of the most economical beef producing animals known. "Whatever the breed, there are certain conformations which are indispensable to the thriving and valuable ox or cow. If there is one part of the frame, the form of which, more than any other, renders the animal valuable, it is the chest. There must be room enough for the heart to beat, and the lungs to play, or sufficient blood for the purposes of nutriment and strength will not be circulated; nor will it thoroughly undergo that vital change which is essential to the proper discharge of every function. We look, therefore, first of all to the wide and deep girth about the heart and lungs. We must have both. We can excuse a slight degree of flatness on the sides, but depth and width we must have, not only about the heart and lungs but over the whole of the ribs: there must be room for the capacious paunch, room for the materials from which the blood is to be provided. This width or thickness of barrel is more advantageous when behind the elbow and low down between the legs, rather than upward toward the withers; for it diminishes the heaviness of the coarser parts of the animal, which is always a very great consideration." The Devon we find exceedingly well developed in these most important points. "He is light in the withers; the shoulders a little oblique; the breast deep, and the bosom open and wide, particularly as contrasted with the fineness of the withers; the legs are wide apart, looking like pillars that have to support a great weight; the point of the shoulder is rarely or never seen; there is no projection of bone as in the horse. These are characteristic and important points. Angular and bony projections are never found in a beast that carries much flesh and fat. The fineness of the withers, the slanting direction of the shoulder,



and the broad and open breast, imply both strength and speed, and aptitude to fatten.—Not only is the breast broad and the chest deep, but the last two ribs are particularly bold and prominent, leaving room for the stomach and other parts concerned in digestion to be fully developed. The hind quarters, or the space from the hip to the point of the rump bone, are long and well filled up, a point of great importance both for grazing and working; it leaves room for flesh in the most valuable parts, and, like the extensive and swelling quarters of the blood-horse, indicate much power behind, equally connected with strength and speed. The fullness here, and the swelling out of the thigh below, are of much more consequence than the prominence of fat which is so much admired on the rump of many prize cattle. The setting on of the tail is high, on a level with the back, rarely much elevated or depressed. This is another important point, as connected with the perfection of the hind quarter. The head is small, singularly so relatively to the bulk of animal, and is clean and free from flesh about the jaws. The fore-arm is large and powerful, swelling suddenly out above the knee, but is soon lost in the substance of the shoulders; while below the knee the bone is extremely small. The skin is exceedingly mellow and elastic; and graziers know that there is not a more important point than this.—(Youatt.)

From time immemorial, the Devons and their kindred of the middle-horn races, have been celebrated for their thriftiness, healthiness, ability to endure hardship and occasional scarcity of food, and the ease and rapidity with which they fatten, as well as the superior excellence of their beef. The feeder and the grazier want animals which yield beef, not only of excellent quality, but which, also, produce it economically; in other words, which pay well for what they consume. And these are after all the only true tests of capacity in a beef producing point of view: first, that the production be of good quality and then of a paying quantity; and that the race or breed which shall produce the greatest amount of beef—quality as well as quantity considered—from a given amount of food, are the most profitable fattening animals.—True, this is not all that should be considered in selecting a breed for general purposes, nor even for grazing and feeding alone. We must have, besides, health, hardihood, ability to go to market without extreme loss, early maturity, and many other qualities combined.

In the Devon we have an animal possessed of every requisite in that respect, and one producing beef of the best quality of any race in our country, and, at the same time, one which makes more beef in proportion to the consumption of food than any other race of beef producing animals.

The Farmers' Magazine (English) describes the Devon of half a century ago, as healthy, hardy, fattening even in a straw yard, a sparkling cutter, the lean well intermixed with the fat, and fattening from 15 to 20 cwt. (1620th to 2240th of beef.) Coleman in his report of his Agricultural Tour, says of them, "they are beautifully formed, possess excessive fineness and symmetry of form, yet with sufficient bone and muscle to render them perfectly hardy. The flesh is finely marbled or interspersed with alternate lean and fat, and is of superior quality and flavor. They are highly esteemed in Smithfield Market, for the excellence of the beef. And their advocates claim that more beef can be made from them, with the same amount of feed, than from any others. One of the most experienced and extensive farmers in Britain says that more money can be made from them than from any other breed"; and adds, "I have great confidence in him."

Watson, in his treatise on Practical Husbandry says: "The Devons are remarkable for their docility and exceeding beauty. The form is highly symmetrical; the body round and compactly built, with a wide chest; the skin soft and flexible, with a yellow tinge; and the hair fine and silky. The carcass is remarkable for yielding the heaviest proportions in the choicest parts, and less in the more coarse. They are kept easily and on coarse fodder, and possess eminently hardy constitutions. They will prosper on thin and scanty pasturage. A few years ago, for the purpose of testing their qualities in feeding, I confined a Devon and a short-horn cow in the same stable, subjecting them to the same care. The Devon fattened, while the other, although consuming a much greater quantity of food, lost flesh to such an extent that I was constrained to substitute a much heavier feed to maintain her in condition." And concludes by saying: "I consider the short-horns to be extravagant feeders even in reference to their great size."—Milburn, in his description of them in his work says: "they produce a class of beef, at all periods of their growth, of capital quality."

(Concluded next week.)

—A farmer in New Jersey lately lost three very valuable cows which were poisoned by chewing green-tinted wall paper that had been torn from the wall and thrown into the yard.

## NEW ADVERTISEMENTS.

Cox, Hibbs & Co., Three Rivers, Threshing Machines.

## ANSWERS TO CORRESPONDENTS.

"Nemo."—Your lines are hardly up to the FARMER's standard. Mere rhyming of words does not make poetry. There should be at least one idea to every three eight-line stanzas.

## STATE FAIRS FOR 1859.

Illinois, Freeport, Sept. 5-9.  
Vermont, Burlington, Sept. 13-16.  
Kentucky, Lexington, Sept. 13-17.  
Ohio, Zanesville, Sept. 20-23.  
Indiana, New Albany, Sept. 26-30.  
Canada West, Kingston, Sept. 27-30.  
Michigan, Detroit, Oct. 4-7.  
Maine, Augusta, Sept. 13-16.  
New York, Albany, Oct. 4-7.

## COUNTY FAIRS FOR 1859.

Macomb, Utica, Oct. 19-21, John Wright, Sec'y.  
Lenawee, Adrian, Oct. 5 & 6, A. Howell, Sec'y.  
Northern Lenawee, Tecumseh, Sept. 21, 22.  
Oakland, Pontiac, Oct. 12, 13, M. W. Kelsey, Sec'y.  
St. Joseph, Centerville, Sept. 28-30, D. Oakes, Sec'y.  
Genesee, Flint, Sept. 28, 29, T. H. Rankin, Sec'y.  
Allegan, Allegan, Sept. 28, 29, H. S. Higginbotham, Sec'y.  
Jackson, Jackson, Sept. 28-30, D. Upton, Sec'y.  
Kent, Grand Rapids, Sept. 28-30.

## MICHIGAN FARMER.

R. F. JOHNSTONE, EDITOR.

SATURDAY, JUNE 11, 1859.

## The Premium List for 1859.

In this number, we complete the premium list of the State Agricultural Society, for 1859. Those who give it attention, will find that the executive committee have labored faithfully to present a list, not only such as has never been before presented for completeness in all its details, but also, such a one as is well calculated to call out the industrial interests of the whole state.

In many of its departments the list is not as complete as it should have been, but in this the committee is not to be blamed, as they were confined by the condition of the Society in its financial relations. Still it will be seen that in the departments relating to manufactures and mechanics, they have done all in their power to encourage a show of domestic skill. Should the result of this year be such as to give satisfaction and to place the Society in good standing, it will then be its duty to endeavor by higher premiums to bring before the public at the great annual exhibition, still more of the results of the labor and skill of the mechanic and manufacturing population of Michigan.

The general rules for the government of committees, and the regulation of the exhibition will appear in the pamphlet which will be issued very shortly, and which the secretary will send to all who may make application for it at any time, after it is printed.

To the lists for each class, brief directions for the instruction of the exhibitor, and also of the committees, have been appended. These directions will be found of use in removing any doubts as to several points, which have heretofore caused difficulty in coming at correct decisions. In this matter, the committee has endeavored to meet the points which seemed most dubious, and which their experience has taught them were most necessary to render as explicit as possible.

## The American Short Horn Herd Book Volume 4.

Lewis F. Allen Esq., the editor and compiler of the American Shorthorn Herd Book has just issued the Fourth volume of this important work. This volume which has been issued at a period of only two years from that of the third volume, contains altogether about three thousand pedigrees, of which 1160 are of bulls. The editor, in his preface says that at the rate of increase now going on an annual volume will be required in the course of the next six or eight years. This volume is illustrated with many fine engravings, among them the portrait of the celebrated Duke of Northumberland, bred by Thomas Bates of Kirkcubrighton, England, and considered one of the best of the short-horn race. He weighed at three years and eight months old 2540 pounds. Another portrait is that of a fat cow bred by L. F. Allen. Her dead weight showed the extraordinary proportion of 83.39 pounds for every hundred pounds of live weight.

In this volume, there is a series of notes very important to many western breeders. These notes contain the list of progeny, with the name of the sire and owner, of the three cows of the celebrated Kentucky importation of 1817, and also of four heifers, the progeny of the three cows. This table brings the time of the birth of some of these cattle down to 1838, and shows that many of the animals now in the west may honestly be not farther removed

from the original importation than the third or fourth indirect descent.

In looking over the index to the names of breeders, about the only one we recognize as from this state, is that of Messrs. Silas Sly and Sons of Plymouth, who have four bulls entered, namely *Baleo* their own property, *Duke* owned by Chapman & Co., of Lenawee county, *Primus*, now sold and owned in Texas, and *Uncle Sam*, now owned by A. Wakeman of Waitland Livingston county; and two heifers, *New Years Day* and *Roan Beauty*, their own property. We have not yet had time to look fully over the volume, or probably we should see more names. Some others of our best breeders, that have heretofore made entries in the Herd Book have not made entries in this volume.

The volume is handsomely bound in the usual style, is printed on good white paper and clear type, and makes a handsome addition to our library, for which we are indebted to the courtesy of the compiler.

## A Set Back.

On the 4th and 5th of the present month, there was a frost in the northern counties which must have done considerable damage to many of the early planted spring crops. At the Agricultural College, about ten acres of corn, most of which had been cultivated the first time, and had been hoed, and which was growing with the utmost luxuriance was struck down, a large portion of it killed, so that it will have to be planted over, and the whole of it more or less injured. The rows which have heretofore been of a bright green, are now tinged with a brown hue that is any thing but pleasant to look on at this season. The crop of early beans in the garden has also been injured, and almost cut off entirely. We have not heard as yet whether the fruit had been effected or not.

## Patent Churns—A Premium Offered.

MR. JOHNSTONE—Dear Sir: In the *Rural New Yorker* of April 2d, I noticed a communication from H. A. Cook, Columbia county, New York, of a "four minutes churn" for making butter from new milk, and have seen hints of the same thing before. I sent the following proposition to the editor of the *Rural New Yorker* and requested him to publish it, and if he had any knowledge of the churn and its maker or owner to call his attention to the proposition. As that communication has not appeared in the *Rural*, I send it to you with the same request.

In order to test the merits of said churn, I offer a premium of ten dollars to be awarded under the direction of a committee appointed by the Executive Committee of the Kalamazoo County Agricultural Society, for that purpose, for a churn that will answer to the following description, viz.:

1. It must be so simple in its construction and so convenient that it will be adapted to general use.

2. It must make from new or sweet milk as much butter, and of as good quality, as can be made from the cream of the same milk, and do it with as little labor as would be required to churn the same cream in the old fashioned dash churn.

In the *Rural New Yorker* of May 24th there is a notice of Wick's Atmospheric Churn which is probably the one referred to, now owned by E. Judson of Cambridge Washington county, N. Y., and S. Judson of Racine Wisconsin.

If the above churn or any other will do all that claims to do, we will give it a liberal patronage, but if it is hambug like many others of equal pretensions, the sooner the world knows it the better, and if you will publish this and send a copy of it to the above named proprietors, we shall hope to hear from them soon, and will give them a full opportunity to test the merits of their churn to their full satisfaction, and if they wish any further information on the subject they will please drop a line to the Corresponding Secretary of the Kalamazoo County Agricultural Society and such information will be furnished.

Kalamazoo.

[Friend Heydenburk's remarks about churns are well worthy of note. We have had some experience in the operation of these articles, and we have yet to see the most, (not all) of his requirements combined in any one article.]

## Correction.

In the Premium list, in the Committee on Class 2, Devons, the name William Wine should read William More.

We call attention to the advertisement of Messrs. Cox, Hibbs & Co., in this number. This company enjoy an enviable reputation for the finish and perfection of machines manufactured by them, and we commend their Thresher to the attention of farmers.

## Encouragement.

From among the many encouraging letters we are receiving, we copy the following from our agent at Grand Traverse.

"The FARMER is decidedly the best agricultural paper I am, or ever was acquainted with. It certainly deserves a place on the table of every farmer in the state. We take here five other papers, magazines &c., but the FARMER is the most eagerly sought after of any. I shall be careful and preserve every number as they will form a volume of great interest at the close of the year.

There was a general failure of crops here last year; and now, farmers are all called upon to pay for their land the coming summer, which prevents many from becoming subscribers, but the prospect is fair for the future of Grand Traverse, and I promise you good list for another year."

## A New South Down for Oakland.

F. E. Eldred of this city has purchased and imported for the use of his farm in Oakland county, the valuable South Down Buck, Tetherby 3d from the flock of Mr. Roche, Otsego county, New York.

Tetherby 3d is a beautiful animal, now one year old. He is by Tetherby 2nd, who was purchased of Mr. Thorne of Thornedale, when six months old, at the cost of one hundred dollars. The grand sire of Tetherby 3d, was Tetherby, a well known Ram in England, and his dam was from Ellman's Ewe.

## Agricultural College.

Dr. Goadby is now engaged in the discharge of his regular duties at the Agricultural College. He will also during the next eight weeks, lecture in the chapel of the College building every Tuesday evening, commencing at eight o'clock. These evening lectures—all of which are open to the public—will be extensively illustrated by means of his splendid oxy-hydrogen microscope and other apparatus.—*Lansing Republican*.

## Scientific Intelligence.

*Agricultural Patents Issued for the Week ending May 31, 1859.*—E. T. Henderson, Charlestown, N. H. Seed Planter.

E. Baker, Fredonia, N. Y. Straw Cutter.  
T. R. Coursey, Frederick, Del. Corn Crusher.  
C. Eastburn, Spencer county, Ky. Cultivator.  
Geo. Lindly, Chicago, Ill. Field Roller.  
J. McPherson, Pennington, N. J. Harvesting Machine.  
R. M. Melton, Criglersville, Va. Cultivator.  
C. Reif, Hatfield, Penn. Clover Huller.  
T. H. Tatlow, Jr., Palmyra, Mo. Seeding Machine.  
T. Wolff, Vicksburg, Miss. Cotton and Hay Presses.

## General News.

—Exchanges from all parts of the country are full of the notes of preparation for celebrating the coming Fourth, and we notice also that the principal citizens of Detroit have signed a call for a meeting to make arrangements for the same purpose.

—The great cattle sale of R. A. Alexander of Kentucky, took place on the 1st of June. Twenty bulls were sold, bringing \$2,730—the highest price one was \$355, from the *Baleo* stock. The cows and heifers sold were twenty-three in number, bringing \$2,715—the highest priced heifer was Cherry 3d, \$425. Eleven Southdown yearling bucks brought \$884.

—In Iowa, Illinois, Kansas, and various other sections of the West, there have been tornadoes, whirlwinds, and terrific storms, resulting in immense destruction of life and property.

Intelligence has been received at the Agricultural Bureau of the Patent Office, announcing the shipment of nine cases of tea seed from Hong Kong. It is expected this seed will arrive toward the latter part of this month. The Bureau will then have enough seed to produce 100,000 tea plants.

—The largest comb factory in the world is at Aberdeen Scotland, where nine million combs of horn and shell are produced annually. The quantity of ox and buffalo horns worked up is immense. The use of gutta percha in the manufacture of combs is likely to strike down all the demand for horn combs, and to change the whole business.

—The New Jersey Episcopal Convention has elected Rev. Dr. Odenheimer of Philadelphia, Bishop, to succeed the late Bishop, Doane.

—The Illinois Railroad has been successful in effecting a loan of \$750,000 in England. This, it is said, will give them all the money needed during the year.

—According to the Report of Superintendent Gregory, the amount of School money to be distributed to Monroe county this year is \$3,608.41.

*The Pike's Peak Exodus.*—The steamers A. B. Chambers and John Werner, from the Missouri river, arrived yesterday, the former bringing three hundred and the latter two hundred and ten disappointed Pike's Peak emigrants. Many of these are in a state of woful destitution, and tell the same story of hardships and privation as that related by all who have turned their backs on Cherry Valley.—*St. Louis Republican*, May 15.

*Depredations of Locusts.*—The Memphis *Advertiser* of the 24th says: "We hear of extensive depredations committed by the swarms of locusts which now infest the country. In some instances these insects have attacked gardens and growing crops, and almost destroyed them."

—We see by our exchanges that the amount of damage done by lightning is very unusual for so early in the season. A great many buildings have been struck, people and cattle killed and barns burned in different parts of the country.

—The New York city papers continue to record the most shocking details of murders, suicides, horrible tragedies and fatal affairs.

## Literary News.

E. G. Evans publishes "The Ladies' Hand Book of Fancy and Ornamental Work, comprising Directions and Patterns for working in Applique, Bead Work, Braiding, Canvas Work, Knitting, Netting, Tatting, Worsted Work, Quilting, Patchwork, etc., by Miss Florence Hartley. It is profusely illustrated. Her purpose has been "to furnish all that is essential to the proper understanding and practice of ornamental work, in the plain-

est language, without introducing unnecessary and irrelevant topics."

The author of "The Wide, Wide World," has published a new work entitled "Hard Maple." Peterson & Brothers have issued in book form, the historical novel entitled "The Cavalier," by G. P. R. James, which is now being published as a serial in the *Saturday Evening Post*.

W. A. Townsend & Co. issue "All about it; or, the History and Mystery of Common Things." This work contains a great variety of information on almost everything in nature and art.

A. O. Moore & Co. issue the third edition, revised, and illustrated with seventy-five engravings, of "A Practical Treatise on the Hive and Honey-Bee," by L. L. Langstroth; with an Introduction, by Rev. Robert Baird, D. D. Also, "The Principles, Processes, and Effects of Draining Land with Stones, Wood, Plows, and Open Ditches, and especially with Tiles; including Tables of Rain-fall, Evaporation, Filtration, Excavation, Capacity of Pipes; cost and number to the acre, of Tiles, etc.," by Henry F. French. It contains more than 100 illustrations.

It is said that Smith, Elder & Co., of London, are about to bring out a new monthly magazine under the editorship of Thackeray.

The London *Lady's Newspaper* announces that Mr. Lucas, a gentleman connected with the literary department of the *Times*, is about commencing the publication of a new periodical intended as a rival to Mr. Dickens' *All the Year Round*; it is to be known as the *Once a Week*. Bradbury & Evans are to be the publishers, and the first number will appear on the 2d of July.

Received.—From D. M. Dewey, Rochester, N. Y., two splendid specimens of colored fruit and shrubbery; one, a golden nectarine, the most beautiful thing of the kind we have ever seen, with the rich dark crimson of the sun-tinted side so deliciously melting down into the deep golden yellow from which it takes its name. The other is a large sheet, containing four specimens of evergreens beautifully lithographed and colored. We shall have them framed to ornament our office walls.

We have also received from Mr. Dewey, his printed catalogue of colored plants, embracing all varieties of fruits, flowers, shrubs, &c., which he will furnish to order.

## Foreign News.

The steamship City of Washington left Liverpool on the 25th ult, bringing important news from the seat of war.

The first battle was fought at Montebello. It took place on the 21st May.

The French accounts say that the Austrians, 15,000 strong, under Gen. Stadion, attacked the advanced posts of Marshal Baragney de Hilliers, and were driven back by Gen. Morris' division, after a fierce battle of four hours duration.

The Allies, including some Piedmontese cavalry, carried Montebello, but did not pursue the Austrians.

The steamship Africa has since arrived from Liverpool, with dates to the 25th ult.

There is nothing important from the seat of war, beyond further details of the battle of Montebello. The Austrians profess satisfaction with the result. Gyalval says his loss was 600 killed, 213 wounded, and 280 missing. He says the French numbered 40,000, but abstained from all pursuit. Count Stadion, commander of the Austrian forces, was wounded. Some French authorities still assert that not much over 4,000 French were engaged. Others estimate the number at 12,000.

It is reported via Turin that 5,000 Austrians attacked Garibaldi's corps at Varese, but were repulsed and pursued. The country around Varese was in insurrection. Garibaldi was on his way to Como. His force numbered 10,000, but no cavalry or artillery.

Popular risings in favor of Sardinia are making in some parts of Parma.

There are vague rumors via Vienna that Gortschakoff, the Russian Foreign Minister, has resigned because the Emperor refused to carry out the engagements with France.

The Derby Ministry have issued a strong appeal to their Parliamentary supporters for an early attendance, to meet the opposition movement.

The Empress Eugenie, in addressing the great bodies of the State, said she placed full dependence on the patriotism of the Deputies, and upon the support of the entire nation, which, during the absence of its chosen chief, would never be found wanting to a woman and child. The speech was loudly cheered.

The Bourse was firm and advancing, closing at 61 1/2, 55c.

The war excitement ran high in southern Germany.

Kossuth was expected to go to Genoa in about a week, with the full concurrence of Napoleon and the King of Sardinia, there to concert plans with Plaisa and others to overthrow the Austrians in Germany.

The King of Naples was acknowledged by telegraph by nearly all the Powers, and the army swore allegiance.

Still later advices are brought by the steamship Arago, which arrived from Galway, bringing Liverpool dates to the morning of the 30th ult. The following advices have been received from Lugano to-day:

"Yesterday evening, after a furious fight, which lasted from five to eight o'clock, Garibaldi entered Como. The combat was renewed at Camerlota, and the Austrians again gave way and retreated. The town of Como was illuminated. All the steamers on the lake of Como are in the hands of the patriots. This morning the Austrian war steamer on the Lago Maggiore kept up a three hours' cannonade on the town of Cannadido, without much effect."

The Parmesans had declared for the King of Sardinia and Italian independence.

Portugal had declared her neutrality.

The London *Times* says that the report that Mons. Bernedelly was about to proceed from Paris on an extraordinary commission to the German Confederation, tends to strengthen the supposition of a compromise at no distant day by means of Prussian agency.



## The Household.

"She looketh well to the ways of her household, and catcheth not the bread of idleness."—PROVERBS.

EDITED BY MRS. L. B. ADAMS.

## DEAD MINNA.

BY THE AUTHOR OF "ARNOLD."

As May's first morning rose in pride,  
The village maiden, Minna, died.

Her friends—the kinsmen of her race—  
Mourn'd round her for a little space,  
Then left her in her death-robe drest,  
With one white lily on her breast.

And when the hour of night was near,  
And moonlight soft suffused the bier,

There came the Prince of all the land,  
And weeping kiss'd her small cold hand,

And brought a jewell'd casket rare  
To glimmer round the maiden's hair,

And brought a pearl-lit star to rest  
Upon the crown'd maiden's breast.

Still bore her brow the moon's soft ray;  
It tiang'd the lily where it lay.

He cast the circled gems aside—  
"God's crown is best, my queen! my bride!"

He cast the pearls beneath his feet—  
"God's lily is thy breast-flower, sweet!"

Then, kneeling, wept with passionate pain,  
And shower'd wild kisses down like rain,

And linger'd till the moon sank low,  
And all its soft and smiling glow

Faded slowly from the pallid face,  
And darkness rose around the place—

Then left her in her death-robe drest,  
With one white lily on her breast.

## THE STREET BEGGAR.

BY ALICE CARRY.

Shake not your glossy curls with a "no,"  
As you sit in the warm and rosy glow  
"Twixt your hearth and pictured wall;  
Ah, my lady, you do not know  
How folk feel with their feet in the snow,  
And no bright fire at all.

A shiver! that you will never miss  
See what a baby you have to kiss,  
Honour and wealth to prove;  
Ah, my lady, you cannot guess  
How folk feel in a night like this  
With no little child to love.

From house to house I have gone all day—  
"Nothing for beggars" is all they say,  
Though a banquet waiting stands;  
Ah, you never have known the way  
Poor folk feel when their heads are grey  
And palsy shaking their hands.

For sake of charity say not "no,"  
I am almost famished—I cannot go—  
I must steal or starve—and why?  
Because, my lady, you do not know  
How folk feel with their feet in the snow,  
Turned out from your fires, to die.

## In the Country.

"Come out and see us if it is but for half a day. It will be a relief to you to get away from your office desk, and from the noise and dust of the crowded city a little while; and it is so beautiful out here now, everything is so fresh and green and flowery.—Come."

We read the tempting little note over and over again, and with every reading it grew more tempting still. The country is not to us the paradise, the enchanted fairyland it is to some. We know all about it, particularly in Michigan, from its earliest stages of pioneer experience in log huts in the wilderness, with Indians for neighbors, up to its present pride of rural architecture, its cultivated fields and charming residences that have long since taken the places of the log huts and the Indian camping grounds of old. We know very well, from long experience, all about the pleasures and hardships that fall to the lot of the farmer's daughter, and can witness to the fact that work is work, even though all around the laborer the fields and forests may be clothed with the verdure and bloom of June. From the kindling of the morning fires, to the covering up of the last glowing coals in the old kitchen fireplace at night, we have been through the whole routine—milking the cows, making breakfast, dinner and supper for hungry boys and men, washing dishes, churning, baking, scrubbing, (for carpets were scarce in those days, and we used to scrub and mop in the old-fashioned way, with soap and sand and floods of water,) washing, ironing, spinning, rearing calves and pigs and chickens, making our own dresses, calico for summer, and home made wine colored or purple pressed flannel for winter, wearing substantial, home knit stockings and real leather shoes, working out doors or in, as necessity demanded, we have personally been through with pretty much the whole catalogue of a country girl's experience, and know just about how much flowery romance there is in it, and how much work-day reality.

Then it was no ecstatic anticipation of being wafted into a per's paradise of thornless flowers, or of walking over grassy meadows where no dew ever fell, and no snakes or toads are lurking, that made the invitation in that little note so tempting. It was not so much that there was a chance of going into

the country, as that there was a chance of going anywhere off the track of the most direct line between our office and our boarding house. But was there a chance? That was a question not to be settled by the invitation alone. A hundred such notes might come and we be obliged to return a reluctant "no" to all, unless our "copy box" was in a condition to supply the demands made upon it by the four hungry compositors at their cases on the other side of the room—hungry, not for bread and meat, perhaps, but for copy, copy, from one week's end to another. To be unheeded of their cry would be to neglect our subscribers, for it is through their steady efforts from week to week, adding letter to letter, and never forgetful of the warning word, that the FARMER makes its appearance so promptly; and it is to second these efforts, and that neither their cry nor the expectations of our readers may be in vain, that we have kept steadily at our desk, from morn till night, day after day, through all this blooming spring, listening to the scratch, scratch of the busy pen, the click of the scissors and type, and the rustling of newspapers, instead of the singing of birds and other summer melodies, and looking for printers' errors in proofs and revises, instead of watching the glorious expanding of buds in field and forest into the bloom and verdure of June. It is a confinement that soul and body protest against, and both have many times cried out for change, but have as often been silenced by the more imperious cry for "copy, copy." But this time—how would it be now? must we say no to that last coaxing "come"? We glanced at the compositors' cases, each had something "in hand"—favorable so far—then at the copy box—it looked propitious. Yes: there were carefully folded papers labelled "Farm Notes", there was a chapter about Beef Cattle, one about Bees and Beehives, one on Recollections of Ireland, some other miscellaneous pieces, and, luckier still, there came another installment of the Premium List from the editor at the Agricultural College. There could be no lack of copy for a day and a half to come, and no doubt that we should return in time to replenish the box before another draught should be made upon it after these were drawn. Such a supply had not been on hand at any one time since the absence of the Editor.

We went into the country. Not very far, it is true; but far enough to be out of sight and hearing of city scenes and sounds, away from the office to which we have been confined for months almost as closely as a prisoner in his cell, away from the clicking of type and scissors within, and the ceaseless rattle and roar of drays and omnibuses on the pavement without.

There is a pleasant little home begun on a small patch of half cleared land, it can scarcely be called a farm; it is walled about by primitive forests, green, and full of the coolest shades and the softest whispering summer winds, to say nothing of the "balm of a thousand flowers" that comes up from thickets of crimsom, pink and purple with Indian pinks, phloxes, lupins, and whole banks and native hedges white with choke cherry and blackberry blooms. We wont speak now of the little flies, and the gliding snakes, and the swarms of frogs that haunt the grassiest places and spring up before you wherever you set your foot, like so many little green sprites—everybody who has lived in the woods knows that these creatures belong there just as much as the leaves and flowers do, and they know that great spiders will stretch their webs from branch to branch, above, below, and all around, if they choose, and that long green worms will hang swinging on gossamer threads; that foraging parties of fierce black ants will be scouring the country for yards around their populous, mound-like cities; that mosquitoes will bite; that nettles, yellow jackets and humble-bees will sting, and that, fragrant as the wild rose thickets and hedges of blackberry bloom may be, the proverb still holds true—"There will be briars where berries grow."

We went into the country to forget the city and the labors connected with it, and we did it most effectually, rambling through the woods in defiance of frogs and spiders, climbing over logs and fences regardless of propriety, and gathering bunches of tender wintergreens and pocketful of their scarlet berries all unheeded of the thorns and briars among which they grew. And this walking, climbing, berrying exercise was varied by a little equestrianism, a trot on ABE's pet "Fanny" up and down the path leading from the house to the woods. Talk of the gallantry of city beaux! We should like to see a single dandy of them who could bring a horse up to a chair as gracefully as ABE did, or who could so easily transform his own saddle into a riding seat for a lady, putting the off stirrup over the horse's neck, and shortening it up by unbuckling and buckling the strap till it was just the right length, then tightening the girth that all might be safe, and patting "Fanny's" neck so coaxingly to keep her quiet

till we could spring upon her back. It was not far to spring, to tell the truth, and the ride itself scarcely occupied as much time as we have taken to write about it, but we look upon it only as a preface to a longer chapter in contemplation—not the writing, but the riding—and of this we give both ABE and "Fanny" fair warning.

The rest of the Sabbath falls alike upon the woods and upon our hurried city life; though there is never heard "The sound of the church going bell," there are eloquent preachers, and silent worshippers, and singing choirs, and organs played by a Master Hand, that are never out of tune; and prayers and thanksgivings as fervent as any that ever went up to the fretted ceilings spanning the cold walls of the most splendid temples built by man. If the woods "were God's first temples" are they not his temples still? And, unlike the temples made by earthly hands, they do not want for worshippers six days out of every seven. There, as truly as in the firmament above, "Day unto day uttereth speech, and night unto night showeth knowledge."

But the Sabbath passed; and with the going down of its sun expired the limit of our stay. Monday morning found us at the desk again, where, for the last few hours, between looking over exchanges, reading proofs, and attending to various other matters, we have managed to tell you in so many words that we have been in the country.

But the copy box is empty, and our right hand man at our elbow asking for "copy."

## A New Contributor.

We are happy to be able to introduce our new contributor "SLOW JAMIE," to the youthful readers of the FARMER. Since the Editor's absence at Lansing, the children of our Household have been sadly neglected, as we have had no time to tell them stories, or to make riddles for them, and therefore for their sakes we welcome "Slow Jamie," with his pleasant Recollections of Ireland, and give our young friends this week the first of his charming series. Fathers, mothers and teachers will be interested in these pleasant sketches too, and we think, will thank us for introducing to their children such an agreeable companion as "Slow Jamie."

## RECOLLECTIONS OF IRELAND.

PREPARED FOR THE YOUTHFUL READERS OF THE MICHIGAN FARMER BY SLOW JAMIE.

## NUMBER ONE.

I take it for granted that you are the son or daughter of a farmer. If so you lead a pleasant life, and one that is very favorable for the acquisition of knowledge. The green grass springs around your door, the flowers bloom in your garden, and the orchard waves its boughs not far away. You cannot step out but you hear the merry birds twittering in the air, or see the cows and sheep grazing in the luxuriant pasture. All this is instructive as well as delightful. The leaf of a plant contains as much instruction as the leaf of a book, and it is perhaps easier to learn to read it. To lead you to keep your eyes open when you walk out, and to treasure up new ideas when you get them, Slow Jamie now takes up his pen. He writes about Ireland, partly because it was there he lived when he was a boy like you, and partly because some of his young readers will like to hear about the Green Island beyond the sea. But first of all, I must tell you about the title prefixed to my name.

I was always remarkably "slow." "Jamie is powerful slow," was a remark my father often made. "Try and be smart," was the frequent injunction of my mother. "Be quick, be quick," was the angry command of my school-teacher.

All this annoyed me considerably, and I often tried to move round as briskly as my neighbors, but soon forgot myself, and fell back again into my old gait. My mind partook of the character of my body. It took me long to learn my lessons, and longer to recite them.

This I mention for your encouragement.—If heaven has favored you with an active body and a sprightly mind, you ought to be thankful for the favor, and improve it by running in the path of virtue. But if in temperament you resemble your sluggish friend, you need not be discouraged. The slowness with which I took up ideas, fixed them the more permanently in my memory, and I began to hear them say "Give Jamie his time, and he will tell his story as well as any of them."—And in the course of time, I left some of my classmates behind, who could learn their lessons in half the time I could, simply because I remembered what I had learned. I mention this not to recommend slow action. It is a happy thing to be active in mind and body, but to impress my young readers with the importance of learning a few things well.

Some body has said that it is not the money you make, but the money you save, that makes you a rich man. So it is not facts you learn but those you remember which make you wise. Whenever you get a new idea lay it away carefully, and often bring it out and look at it. When you are familiar with a few facts, you will find that each is a point round which other ideas will cluster.

I relished boyish sports very well, but my sluggish temperament made me a dull play-fellow, while my fondness for stories and quiet deportment gave me general favor among the old. Sympathy soon drew me to the company of my seniors. I listened attentively to their conversation, and, when encouraged, took part in it. In this way time that might otherwise have been spent in idle amusement, was thus occupied in laying away scraps of knowledge which never came amiss. I would not undervalue healthy and exhilarating games, but if some of my young readers would play less, and converse more, they would find it more profitable and perhaps as pleasant.

I was born in the year 1825, in sight of the river Bann, two miles from Rathfriland, in the county of Down. Bann in the Celtic signifies handsome, and well did the river deserve the name. Its clear waters flowed along a pebbly bed. The active pike and spotted trout sported in its stream. Its sloping banks waved the whole summer with green corn (oats,) which, in that moist climate, is sown in March and not harvested till October. Its flats were white with webs of fine linen bleaching for the foreign market. And the graceful white swan, sometimes venturing up from Lough Neagh, dimpled its smooth surface with her long arching neck.

Rathfriland was a small market town.—The first syllable *Rath* indicates that it was once the residence of an old Celtic chieftain, and the ruins of an old castle gave token of the same.

In front of our door and some ten miles distant, the Mourne Mountains rose up against the sky. In them the Bann took its rise, which flowing by us, and through Lough Neagh, emptied into the sea. This was the amount of my correct geographical knowledge. I say correct knowledge, for at an age when most of my young readers can describe the several divisions of the globe, I knew little or nothing about it. My idea was that the world consisted of four great islands, Ireland, England, Scotland, and America. I had sometimes heard of Asia and Africa, but I thought them of little account. I had always heard that America was very extensive, so I thought it was larger than England or Scotland, but that it might be greater than Ireland never entered my head. Had I enjoyed the early training in the elements of geography which you have in the primary schools, it would have saved me much confusion of thought then, and hard study afterwards. But I will speak about school next week.

## Household Varieties.

The Fashions.—The Paris correspondent of the London *Lady's Newspaper*, gives the following brief chapter on fashions:

"The rage for gored skirts still continues, and many of the leaders of fashion are making their appearance (whenever the weather will allow them) sans crinoline. I need not say that these ladies were the first to adopt the above much-abused article of lady's apparel, and are now the first to leave it off—and leave it off in the fullest sense of the expression—without even the stiffened *jupeons* which were used before the advent of crinoline.—Perhaps it was because the ladies were particularly graceful, perhaps of the novelty of the thing; but I must confess (albeit a crinoline-wearer) that the heavy folds of the robe which fell naturally as the lady walked, quite made me think that the crinoline was not such improvement after all. Be this as it may, I observe that her Majesty the Empress-Regent still clings to the crinoline, and no one will deny her having a graceful appearance.—Bonnets are being made more and more simple.—Those of straw or horse-hair are very pretty, trimmed with a black silk curtain, red and black poppies on one side, and black strings, with the "Empress wreath," which goes across the top of the inside cap, made of small red and black poppies, English ladies coming to Paris are astonished at the quantity of black used by the French ladies in almost every article of their dress, and still more astonished at its not giving them a sombre-looking toilette. It is because all the other colors in the dress or bonnet are so very brilliant that the black merely has the effect of softening them down."

Conversation.—The art of conversation is the finest of the fine arts; it is not the art of saying much, but of saying well. There are preaching men who talk, but listen not, or who speak in private, or gossiping men who think little and are never still, and yet they are not conversable men. The real art of conversation consists, not only in expressing your own thoughts freely, but in drawing out by encouragement the thoughts of others. You will never be liked for long talking by any body; but you are sure to be liked if, by your talking, you encourage and stimulate others to think and talk in response to your thoughts. The art is a natural gift in the main. It is not only a gift of mind, but also of temper. It requires condescension, indulgence, patience, and many other accomplishments, and refinement as well as power.

## Mary's Married Life.

## CHAPTER II.

Dr. Freeland was not nervous, and his muscular strength was powerful, but it had all been exhausted that night, and, as he had said, every emotion of his soul had been harrowed up with awful power. The stimulating wine had a good effect on him for the time, and did not make him drunk as Mary feared it would. They retired early. Mary did not ask her husband any questions about his patient, for she felt that the subject was too dreadful for conversation between them; but she thought a great deal of it that night, and a shuddering horror crept over her as she thought to what the wine cup might lead, and with that came the memory of the three glasses he had drained in such quick succession. He, her husband, her idolized Edward! could he ever come to such a death? At the thought she clasped her arms about his neck in convulsive terror. "O, Edward! my husband!" she exclaimed, "let us pledge ourselves never to taste another drop of wine or ardent spirits while we live!"

"Nonsense, Mary, I have frightened you out of your wits; I ought to have kept such things to myself, but I was completely overmastered, and if it had not been for the wine I might have gone off into one of those fits myself."

"But it is wine that leads to it from the first;" interrupted Mary, "and we shall be safer to let it alone. Will you pledge with me, Edward?"

"I? No; what are you thinking of, Mary? Do I look like a drunkard, that you want to put a bar between me and the glass?"

"Not a bar, my husband, but your hand joined in mine, and if you choose a writing—"

"A hand-writing on the wall I fear it would be, Mary; and it would haunt me all the time, saying with its silent voice, 'You dare not drink,' and I shall want to drink all the more to show that I dare defy it. No, no; it is only the weak who yield. I shall feel much prouder and more independent to stand by my own strength. These artificial props are necessary for some, but not for me."

The next day Mary related the events of the evening to her sister. "O," said she as she concluded with her unsuccessful attempt to have her husband pledge himself, "O, I wish we might have no more wine at parties, and that Edward might never drink another drop."

"I heartily join you in that wish, my dear sister," said Catharine. "It is dreadful to think what wine can do. The man who died last night was once as respectable as your husband or mine, but he has been a sot for the last three years and wine was at the beginning of it all. Champagne parties where ladies and gentlemen met led to brandy parties among gentlemen alone, and from these he fell another step into the gambler's den and down to a level with the vilest bar-room drunkard. I do not know that your husband is in danger more than many others, but some have a natural love for stimulants and when once such an appetite is aroused it requires great strength of mind and resolution to keep it in check. Edward is proud-spirited, but the proudest have fallen. That is no safeguard, but I hope his principles may be.—What are his religious principles now, Mary? I have long thought to ask you; does he say much upon the subject?"

"Not now," said Mary, rather sorrowfully. "He used to speak often of those things before we were married, and though I knew he was a member of no church, I believed then, and do yet, that he was quite as religious as many who make more pretensions. You would say that is no test of Christian principles, and I know it is not, but he is a moral, honorable, high-minded man, and it seems almost childish to talk of fettering such with the shackles and supports that are necessary for the weak and wavering. Do not look at me so surprised, Catharine; I feel just as I speak. Before I married him, and when I thought church membership so necessary to a good life, I formed many plans for inducing him to become a Christian in name as well as in principle, but since I have come to know him better, I hardly know it is, sister, but he seems so strong, so good, so noble that I feel the most perfect security in living and dying with him as he is. Indeed, I begin to feel that I have been needlessly alarmed about his drinking. His excitement made me nervous I suppose, and when I saw him taking wine I fancied him dying of that horrible delirium. After all, the wine was what he needed. He cannot be a drunkard and I will not wrong him by the suspicion."

"I hope he may not, Mary; indeed I feel almost assured that he will not while you are with him; but, my dear sister, beware how



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